

**ABSTRACT**

Semiconductor devices including a non-volatile memory transistor and methods for manufacturing such semiconductor devices are described. One semiconductor device may include a silicon substrate 10, a floating gate 22 disposed above the silicon substrate 10 through a first dielectric layer 20, a second dielectric layer 26 that contacts at least a part of the floating gate 22, a control gate 28 formed over the second dielectric layer 26, and a source region 14 and a drain region 16 formed in the silicon substrate 10. A wiring layer 40 is provided above the floating gate 22, and the entirety of the floating gate 22 is overlapped by the wiring layer 40 as viewed in a plan view.

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